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16 MALIGNANT MEMORIES: SIGNATURES OF VIOLENCE

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In the futuristic science-fiction film classic *Blade Runner* (1982), androids are commercially manufactured to substitute for humans on hazardous distant planets. Eventually, they become too human-like and rebel. But how did they become more human?

Memories.

On their own, these nonhumans accumulated and patterned memories that enabled them to become human, integrating identities, relationships, aesthetics, emotions, and free will. But they were too childlike—preadolescent at best—and lacked the refinement that comes with full development into civilized beings who can function reasonably in society.

Also, they became too autonomous, aggressive, and dangerous. So, the manufacturer "gifted" his latest models with rich pasts of actual human memories. But, when Rachel, a beautiful, state-of-the-art, latest edition android, a postadolescent woman in every way, discovered that her memories were not her own, she felt betrayed. Yet she was able to grieve this loss and form a loving, mature, romantic relationship with the human hero. Even though not her own, a remembered past made this android human in a fuller sense.

In the musical *Cats* (1981), the haunting tune "Memories" laments, "Has the moon lost her memory? She is smiling alone. . . . I remember the time I knew what happiness was—let the memories live again." Cats were humanized individually and as a community through the endowment of lush personal and collective memories. Proust (1956) in

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Remembrances of Things Past reminds us how memory can surprise us so agreeably. Suddenly, a rich and pleasant tapestry of complex images, sensations, and affects begins to envelop us, prompted merely by a seemingly trivial tasting of a "petite madeleine" pastry.

But there is another side. Traumatic memories lie at the core of human experience on the opposite extreme from memories of joy, love, soothing, safety, nurturance, even yearning, that enrich our existence or even make it possible. Memories that grow from violence can be invasive and tenacious and destroy the core of our humanity. In Shatan (1974), a soldier described his experience during a fifteen-second terror-filled ambush as "your whole world feels as if it slides through a membrane." Years later, he still looks to a therapist to assist him "back through the membrane of reality." Shatan quotes Yuri Suhl's poem "Survivor": "*Memory* is the enemy now. . . ."

Wiesel (1969) embodies the struggle to hold on to our humanity and give meaning to personal and collective memories in spite of the unspeakable atrocities of the Holocaust. Wiesel is haunted by an image of the indifferent, passive onlooker who stands by and does nothing as his neighbors are systematically destroyed. Additionally, there has been growing interest in the popular media, especially American television and film, in the enigmatically enduring effects of violence. Recent films, including *Jacob's Ladder* (1990), *The Prince of Tides* (1991), and *The Fisher King* (1991), depict tormented individuals haunted by traumatic memories.

Posttraumatic Stress Disorder

Posttraumatic stress disorder (PTSD) is a syndrome that has gained much attention since the Vietnam War and has recently also been studied in children. PTSD is characterized in DSM-III-R (American Psychiatric Association 1987) as deriving from an unusual stressor and distinguished by three clusters of symptoms: reexperiencing, avoidance, and arousal.

To illustrate, data were gathered in the aftermath of a shooting at a local school where a child was murdered and several were wounded (Egginton 1991). Table 1 (Schwarz and Kowalski 1991) shows the range of PTSD symptoms and how they are organized in clusters and yield diagnoses in children, mean age eight, and adults, mean age forty-four, and displays the differences between children and adults.

TABLE 1

DSM-III-R PTSD Symptoms, Cluster, and Diagnosis Frequencies, Differences between Adults and Children, Diagnosis and Cluster

	Adults (%) (N = 66)	Children (%) (N = 64)
Was event an extreme stressor?	55	91[a]
Reexperiencing (at least one) . . .	81	92
Recurrent recollections/play . .	42[dc]	88[ac]
Recurrent distressing dreams	6	30
Sudden feeling event recurrent	6[b]	39[a]
Distress at reminders	78[bc]	25[d]
Avoidance (at least three).	20[d]	30[d]
Thoughts or feelings	29[dc]	23[dc]
Activities or situations	29[dc]	52[dc]
Inability to recall	11	
Lost interest/regressed	10	41[ac]
Detached from others	9[dc]	39[acd]
Restricted range of affect	17[dc]	48[adc]
Future foreshortening	5[dc]	
Arousal (at least two).	46[d]	55[d]
Insomnia.	22[c]	30[dc]
Irritability/anger		14
Difficulty concentrating.	17[d]	33[c]
Hypervigilance	73[c]	
Exaggerated startle response. .	31[c]	67[ac]
Physiological reactivity	28[cd]	23[cd]
PTSD diagnosis	19	27

Note.—χ^2 analysis Yate's Correction $p < .002$.

[a] Children > adults.

[b] Adults > children.

[c] Associated with cluster.

[d] Associated with diagnosis.

Malignant Memories

We coined the term "malignant memories" to highlight the central role of memory in PTSD development and to emphasize that human response to trauma is a neurobiological as well as a psychosocial phenomenon (fig. 1). A malignant memory is a relatively stable, pernicious, persistent, biologically rooted configuration that embeds itself after a trauma, linking cognitive, perceptual, and affective functions. A malignant memory invades experience and is associated with high levels of arousal and opposite tendencies to attentuation that include cognitive distortions, affective numbing, and behavioral and affective

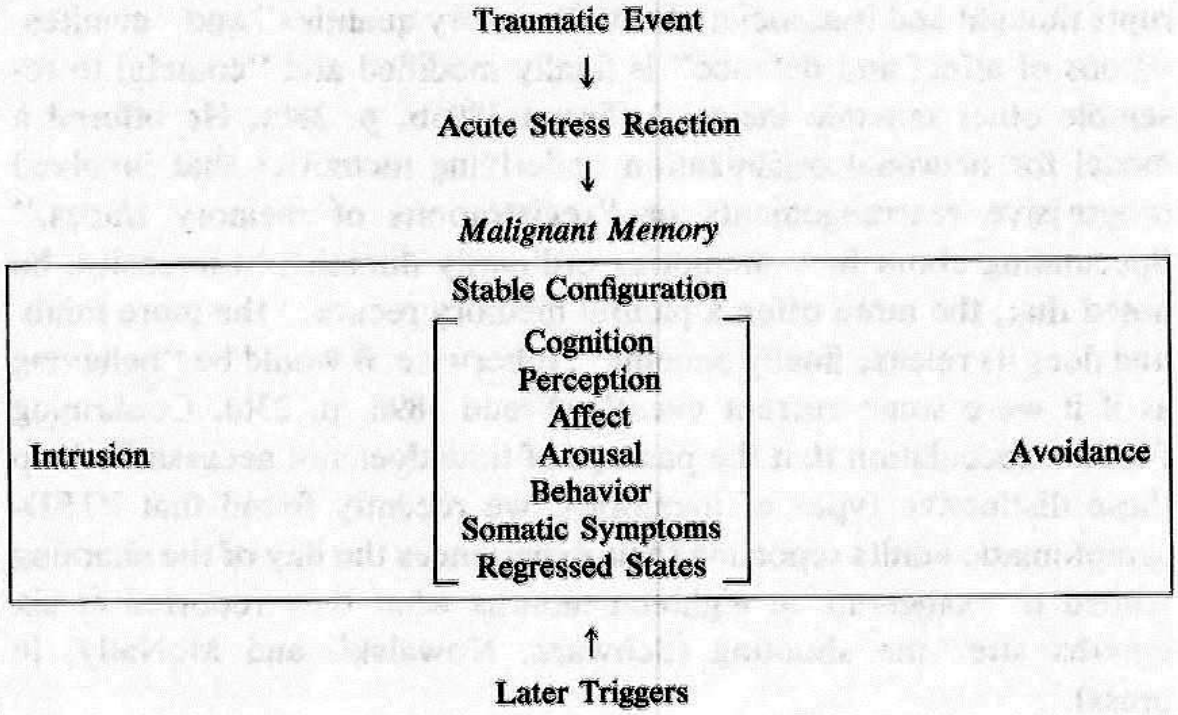

FIG. 1.—Schematic representation of the structural component of a malignant memory

avoidance (Schwarz and Kowalski 1991). Such memories are later activated with specific triggers.

The concept of malignant memory is not new, and a body of theory and experimental evidence has accumulated since the early days of modern psychiatry linking experience, memory, behavior, and brain structure and function. For example, recognizing the central role of memory almost a century ago, Breuer and Freud (1893, p. 7) wrote, "Hysterics suffer mainly from reminiscences," and suggested abreaction as a cure.

Freud speculated about the underlying neurophysiological organization of traumatic memories: "As a result of the experience of pain the mnemonic image of the hostile object has acquired an excellent facilitation to . . . key neurones" and may involve "endogenous stimuli consist[ing] of chemical products, of which there may be a considerable number" (Freud 1895a, p. 321). Note his prediction of the discovery of facilitatory processes and neurotransmitters.

Freud went still further to distinguish posttraumatic memories from ordinary "mnemic images": "Particularly large and repeated binding from the ego is required before this facilitation to unpleasure can be counterbalanced" and before an "untamed mnemic image" that inter-

rupts thought and is associated with "sensory qualities" and "manifestations of affect and defence" is finally modified and "come[s] to resemble other mnemic images" (Freud 1895b, p. 380). He offered a model for neuronal organization underlying memories that involved progressive rearrangements or "registrations of memory traces." Speculating about how memories ordinarily diminish in intensity, he noted that, the more often a painful memory recurs, "the more inhibited does its release finally become"; otherwise, it would be "behaving as if it were some current event" (Freud 1896, p. 236). Confirming Freud's speculation that the passage of time does not necessarily help these distinctive types of memories, we recently found that PTSD-symptomatic adults reporting their experiences the day of the shooting tended to exaggerate at eighteen months what they reported at six months after the shooting (Schwarz, Kowalski, and McNally, in press).

Janet (reviewed in van der Kolk and van der Hart 1989, p. 1532) posited a certain type of memory as unique to trauma. Events accompanied by "a vehement emotion . . . produce their disintegrating effects in proportion to their intensity, duration, and repetition. . . . Memory traces linger as subconscious fixed ideas that cannot be 'liquidated' as long as they have not been translated into a personal narrative and instead continue to intrude as terrifying perceptions, obsessional preoccupations, and somatic reexperiences, such as anxiety reactions."

Later, Freud (1920, p. 30) conceptualized trauma as "a breach . . . in the protective shield" resulting in flooding of the mental apparatus with stimuli that require binding, but he did not pursue his interest in specific processes of memory. Yet the concept of repetition compulsion was always central in psychoanalytic thinking. Horowitz and Becker (1972) supported its manifestations in traumatic experiences by showing that stimulus-repetitive intrusive thoughts followed stress of watching a film even in individuals without a psychiatric diagnosis. On the whole, however, psychoanalytic theory and practice evolved away from studying the neurophysiological basis of memory toward exploration of their content, especially memories of early experiences and their associational links, vicissitudes, and influences on later experience and behavior. The heart of psychoanalytic treatment has been the development and analysis of a transference neurosis, a rich reliving in the transference of unconscious patterned memories or fantasies